

## **RAW SEQUENCE LISTING**

**The Biotechnology Systems Branch of the Scientific and Technical  
Information Center (STIC) no errors detected.**

Application Serial Number: 10/517, 707 A  
Source: PCT  
Date Processed by STIC: 07/25/2005

# ***ENTERED***



PCT

## RAW SEQUENCE LISTING

DATE: 07/25/2005

PATENT APPLICATION: US/10/517,707A

TIME: 08:46:33

Input Set : A:\MER134SEQ.TXT

Output Set: N:\CRF4\07252005\J517707A.raw

4 <110> APPLICANT: BAKER, Matthew  
 5 CARR, Francis J.  
 7 <120> TITLE OF INVENTION: MODIFIED BRYODIN 1 WITH REDUCED  
 8 IMMUNOGENICITY  
 10 <130> FILE REFERENCE: MER-134  
 12 <140> CURRENT APPLICATION NUMBER: US/10/517,707A  
 13 <141> CURRENT FILING DATE: 2004-12-10  
 15 <150> PRIOR APPLICATION NUMBER: PCT/EP03/06055  
 16 <151> PRIOR FILING DATE: 2003-06-10  
 18 <150> PRIOR APPLICATION NUMBER: EP 02012911.0  
 19 <151> PRIOR FILING DATE: 2002-06-11  
 21 <160> NUMBER OF SEQ ID NOS: 183  
 23 <170> SOFTWARE: FastSEQ for Windows Version 4.0  
 25 <210> SEQ ID NO: 1  
 26 <211> LENGTH: 267  
 27 <212> TYPE: PRT  
 28 <213> ORGANISM: Homo sapiens  
 30 <400> SEQUENCE: 1  
 31 Asp Val Ser Phe Arg Leu Ser Gly Ala Thr Thr Thr Ser Tyr Gly Val  
 32 1 5 10 15  
 33 Phe Ile Lys Asn Leu Arg Glu Ala Leu Pro Tyr Glu Arg Lys Val Tyr  
 34 20 25 30  
 35 Asn Ile Pro Leu Leu Arg Ser Ser Ile Ser Gly Ser Gly Arg Tyr Thr  
 36 35 40 45  
 37 Leu Leu His Leu Thr Asn Tyr Ala Asp Glu Thr Ile Ser Val Ala Val  
 38 50 55 60  
 39 Asp Val Thr Asn Val Tyr Ile Met Gly Tyr Leu Ala Gly Asp Val Ser  
 40 65 70 75 80  
 41 Tyr Phe Phe Asn Glu Ala Ser Ala Thr Glu Ala Ala Lys Phe Val Phe  
 42 85 90 95  
 43 Lys Asp Ala Lys Lys Lys Val Thr Leu Pro Tyr Ser Gly Asn Tyr Glu  
 44 100 105 110  
 45 Arg Leu Gln Thr Ala Ala Gly Lys Ile Arg Glu Asn Ile Pro Leu Gly  
 46 115 120 125  
 47 Leu Pro Ala Leu Asp Ser Ala Ile Thr Thr Leu Tyr Tyr Tyr Thr Ala  
 48 130 135 140  
 49 Ser Ser Ala Ala Ser Ala Leu Leu Val Leu Ile Gln Ser Thr Ala Glu  
 50 145 150 155 160  
 51 Ser Ala Arg Tyr Lys Phe Ile Glu Gln Gln Ile Gly Lys Arg Val Asp  
 52 165 170 175  
 53 Lys Thr Phe Leu Pro Ser Leu Ala Thr Ile Ser Leu Glu Asn Asn Trp  
 54 180 185 190  
 55 Ser Ala Leu Ser Lys Gln Ile Gln Ile Ala Ser Thr Asn Asn Gly Gln

(Pg-6)

## RAW SEQUENCE LISTING

DATE: 07/25/2005

PATENT APPLICATION: US/10/517,707A

TIME: 08:46:33

Input Set : A:\MER134SEQ.TXT

Output Set: N:\CRF4\07252005\J517707A.raw

```

56          195          200          205
57 Phe Glu Ser Pro Val Val Leu Ile Asp Gly Asn Asn Gln Arg Val Ser
58      210          215          220
59 Ile Thr Asn Ala Ser Ala Arg Val Val Thr Ser Asn Ile Ala Leu Leu
60 225          230          235          240
61 Leu Asn Arg Asn Asn Ile Ala Ala Ile Gly Glu Asp Ile Ser Met Thr
62          245          250          255
63 Leu Ile Gly Phe Glu His Gly Leu Tyr Gly Ile
64          260          265
67 <210> SEQ ID NO: 2
68 <211> LENGTH: 21
69 <212> TYPE: PRT
70 <213> ORGANISM: Homo sapiens
72 <400> SEQUENCE: 2
73 Arg Tyr Thr Leu Leu His Leu Thr Asn Tyr Ala Asp Glu Thr Ile Ser
74 1          5          10          15
75 Val Ala Val Asp Val
76          20
79 <210> SEQ ID NO: 3
80 <211> LENGTH: 15
81 <212> TYPE: PRT
82 <213> ORGANISM: Homo sapiens
84 <400> SEQUENCE: 3
85 Ala Thr Glu Ala Ala Lys Phe Val Phe Lys Asp Ala Lys Lys Lys
86 1          5          10          15
89 <210> SEQ ID NO: 4
90 <211> LENGTH: 24
91 <212> TYPE: PRT
92 <213> ORGANISM: Homo sapiens
94 <400> SEQUENCE: 4
95 Glu Arg Leu Gln Thr Ala Ala Gly Lys Ile Arg Glu Asn Ile Pro Leu
96 1          5          10          15
97 Gly Leu Pro Ala Leu Asp Ser Ala
98          20
101 <210> SEQ ID NO: 5
102 <211> LENGTH: 27
103 <212> TYPE: PRT
104 <213> ORGANISM: Homo sapiens
106 <400> SEQUENCE: 5
107 Ile Thr Thr Leu Tyr Tyr Tyr Thr Ala Ser Ser Ala Ala Ser Ala Leu
108 1          5          10          15
109 Leu Val Leu Ile Gln Ser Thr Ala Glu Ser Ala
110          20          25
113 <210> SEQ ID NO: 6
114 <211> LENGTH: 21
115 <212> TYPE: PRT
116 <213> ORGANISM: Homo sapiens
118 <400> SEQUENCE: 6
119 Ala Thr Ile Ser Leu Glu Asn Asn Trp Ser Ala Leu Ser Lys Gln Ile

```

## RAW SEQUENCE LISTING

DATE: 07/25/2005

PATENT APPLICATION: US/10/517,707A

TIME: 08:46:33

Input Set : A:\MER134SEQ.TXT

Output Set: N:\CRF4\07252005\J517707A.raw

```

120 1 5 10 15
121 Gln Ile Ala Ser Thr
122 . 20
125 <210> SEQ ID NO: 7
126 <211> LENGTH: 267
127 <212> TYPE: PRT
128 <213> ORGANISM: Artificial Sequence
130 <220> FEATURE:
131 <223> OTHER INFORMATION: Modified byrocin 1 protein
W--> 133 <221> NAME/KEY: VARIANT
134 <222> LOCATION: 48, 49, 51, 54
135 <223> OTHER INFORMATION: Xaa=Ala, Gly, Pro
136 Xaa=Met, Ala, Gly, Pro, Ile
137 Xaa=Ala, Gly, Pro
138 Xaa=Pro, Tyr
W--> 140 <221> VARIANT
141 <222> LOCATION: 55, 60, 64, 66
142 <223> OTHER INFORMATION: Xaa=Thr, Ser
143 Xaa=Pro
144 Xaa=Ala, Gly, Pro
145 Xaa=Ala, Gly, Pro
W--> 147 <221> VARIANT
148 <222> LOCATION: 94, 95, 103, 114
149 <223> OTHER INFORMATION: Xaa=Ala, Gly, Pro, His, Asp, Glu, Asn, Gln, Lys,
150 Arg, Ser, Thr
151 Xaa=Ala, Gly, Pro
152 Xaa=Ala, Gly, Pro
W--> 153 Xaa=Ala, Pro, Ser, Thr, His, Lys
W--> 155 <221> VARIANT
156 <222> LOCATION: 117, 119, 120, 121
157 <223> OTHER INFORMATION: Xaa=Thr
158 Xaa=His
159 Xaa=Ser
160 Xaa=Ala, Ser, thr, Pro, Asn, Asp, Glu, Gly, His,
W--> 161 Lys, Gln
W--> 163 <221> VARIANT
164 <222> LOCATION: 122, 125, 139, 132
165 <223> OTHER INFORMATION: Xaa=Thr
166 Xaa=Ala, Pro
167 Xaa=Ala, Ile, Phe, Gly, Met, Pro, Val, Trp, Tyr
168 Xaa=Phe, Pro, Trp
W--> 170 <221> VARIANT
171 <222> LOCATION: (137)...(143)
172 <223> OTHER INFORMATION: Xaa=Ala, Gly, Pro
173 Xaa=Ala, Gly, Pro
174 Xaa=Ala, Gly, Pro
175 Xaa=Ala, Gly, Pro
W--> 177 <221> VARIANT
178 <222> LOCATION: (152)...(155)

```

## RAW SEQUENCE LISTING

DATE: 07/25/2005

PATENT APPLICATION: US/10/517,707A

TIME: 08:46:33

Input Set : A:\MER134SEQ.TXT

Output Set: N:\CRF4\07252005\J517707A.raw

```

179 <223> OTHER INFORMATION: Xaa=Ala, Gly, Pro, Ser, Thr
180     Xaa=Ala, Gly, Pro, Ile, Met, Ser, Thr
181     Xaa=Ala, Gly, Pro
182     Xaa=Ala, Gly, Pro, Ser, Thr, His, Asp, Asn, Gln,
W--> 183     Lys, Arg
W--> 185 <221> VARIANT
186 <222> LOCATION: (187)...(198)
187 <223> OTHER INFORMATION: Xaa=Ala, Gly, Pro, Thr, Ser, His, Lys, Arg, Asp,
188     Glu, Asn, Gln
189     Xaa=Ala, Gly, Pro, Thr, Ser, His, Lys, Arg, Asp,
190     Glu, Asn, Gln
W--> 191     Xaa=Gln
W--> 192     Xaa=His, Lys, Arg, Asp, Glu, Asn,, Phe, Leu, Pro,
W--> 193     Ser, Tyr, Trp
W--> 195 <221> VARIANT
196 <222> LOCATION: (200)...(202)
197 <223> OTHER INFORMATION: Xaa=Ala, Gly, Pro, Thr, Ser, His, Lys, Arg, Asp,
198     Glu, Asn, Gln
199     Xaa=Asp
W--> 201 <400> 7
202 Asp Val Ser Phe Arg Leu Ser Gly Ala Thr Thr Thr Ser Tyr Gly Val
203 1          5          10          15
204 Phe Ile Lys Asn Leu Arg Glu Ala Leu Pro Tyr Glu Arg Lys Val Tyr
205          20          25          30
W--> 206 Asn Ile Pro Leu Leu Arg Ser Ser Ile Ser Gly Ser Gly Arg Tyr Xaa
207          35          40          45
208 Xaa Leu Xaa Leu Thr Xaa Xaa Ala Asp Glu Thr Xaa Ser Val Ala Xaa
209 50          55          60
210 Asp Xaa Thr Asn Val Tyr Ile Met Gly Tyr Leu Ala Gly Asp Val Ser
211 65          70          75          80
212 Tyr Phe Phe Asn Glu Ala Ser Ala Thr Glu Ala Ala Lys Xaa Xaa Phe
213          85          90          95
214 Lys Asp Ala Lys Lys Lys Xaa Thr Leu Pro Tyr Ser Gly Asn Tyr Glu
215          100          105          110
216 Arg Xaa Gln Thr Xaa Ala Xaa Xaa Xaa Glu Asn Xaa Pro Leu Gly
217          115          120          125
218 Xaa Pro Ala Xaa Asp Ser Ala Xaa Thr Thr Xaa Tyr Xaa Xaa Thr Ala
219 130          135          140
220 Ser Ser Ala Ala Ser Ala Xaa Xaa Xaa Xaa Ile Gln Ser Thr Ala Glu
221 145          150          155          160
222 Ser Ala Arg Tyr Lys Phe Ile Glu Gln Gln Ile Gly Lys Arg Val Asp
223          165          170          175
224 Lys Thr Phe Leu Pro Ser Leu Ala Thr Xaa Ser Xaa Glu Asn Asn Trp
225          180          185          190
226 Ser Ala Xaa Ser Xaa Gln Xaa Gln Xaa Ala Ser Thr Asn Asn Gly Gln
227          195          200          205
228 Phe Glu Ser Pro Val Val Leu Ile Asp Gly Asn Asn Gln Arg Val Ser
229 210          215          220
230 Ile Thr Asn Ala Ser Ala Arg Val Val Thr Ser Asn Ile Ala Leu Leu

```

## RAW SEQUENCE LISTING

DATE: 07/25/2005

PATENT APPLICATION: US/10/517,707A

TIME: 08:46:33

Input Set : A:\MER134SEQ.TXT

Output Set: N:\CRF4\07252005\J517707A.raw

```

231 225          230          235          240
232 Leu Asn Arg Asn Asn Ile Ala Ala Ile Gly Glu Asp Ile Ser Met Thr
233          245          250          255
234 Leu Ile Gly Phe Glu His Gly Leu Tyr Gly Ile
235          260          265
238 <210> SEQ ID NO: 8
239 <211> LENGTH: 13
240 <212> TYPE: PRT
241 <213> ORGANISM: Artificial Sequence
243 <220> FEATURE:
244 <223> OTHER INFORMATION: Flu protein fragment
246 <400> SEQUENCE: 8
247 Pro Lys Tyr Val Lys Gln Asn Thr Leu Lys Leu Ala Thr
248 1          5          10
251 <210> SEQ ID NO: 9
252 <211> LENGTH: 15
253 <212> TYPE: PRT
254 <213> ORGANISM: Artificial Sequence
256 <220> FEATURE:
257 <223> OTHER INFORMATION: Chlamydia peptide
259 <400> SEQUENCE: 9
260 Lys Val Val Asp Gln Ile Lys Lys Ile Ser Lys Pro Val Gln His
261 1          5          10          15
264 <210> SEQ ID NO: 10
265 <211> LENGTH: 13
266 <212> TYPE: PRT
267 <213> ORGANISM: Artificial Sequence
269 <220> FEATURE:
270 <223> OTHER INFORMATION: Fragments of Bryodin 1
272 <400> SEQUENCE: 10
273 Val Ser Phe Arg Leu Ser Gly Ala Thr Thr Thr Ser Tyr
274 1          5          10
277 <210> SEQ ID NO: 11
278 <211> LENGTH: 13
279 <212> TYPE: PRT
280 <213> ORGANISM: Artificial Sequence
282 <220> FEATURE:
283 <223> OTHER INFORMATION: Fragments of Bryodin 1
285 <400> SEQUENCE: 11
286 Phe Arg Leu Ser Gly Ala Thr Thr Thr Ser Tyr Gly Val
287 1          5          10
290 <210> SEQ ID NO: 12
291 <211> LENGTH: 13
292 <212> TYPE: PRT
293 <213> ORGANISM: Artificial Sequence
295 <220> FEATURE:
296 <223> OTHER INFORMATION: Fragments of Bryodin 1
298 <400> SEQUENCE: 12
299 Thr Ser Tyr Gly Val Phe Ile Lys Asn Leu Arg Glu Ala

```

RAW SEQUENCE LISTING ERROR SUMMARY  
PATENT APPLICATION: US/10/517,707A

DATE: 07/25/2005  
TIME: 08:46:34

Input Set : A:\MER134SEQ.TXT  
Output Set: N:\CRF4\07252005\J517707A.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:7; Xaa Pos. 48, 49, 51, 54, 55, 60, 64, 66, 94, 95, 103, 114, 117, 119, 120, 121, 122  
Seq#:7; Xaa Pos. 125, 129, 132, 136, 139, 141, 142, 151, 152, 153, 154, 186, 188, 195  
Seq#:7; Xaa Pos. 197, 199, 201

**VERIFICATION SUMMARY**

DATE: 07/25/2005

PATENT APPLICATION: US/10/517,707A

TIME: 08:46:34

Input Set : A:\MER134SEQ.TXT

Output Set: N:\CRF4\07252005\J517707A.raw

L:133 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!  
L:140 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:7  
L:147 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:7  
L:153 M:259 W: Allowed number of lines exceeded, <223> Other Information:  
L:155 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:7  
L:161 M:259 W: Allowed number of lines exceeded, <223> Other Information:  
L:163 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:7  
L:170 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:7  
L:177 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:7  
L:183 M:259 W: Allowed number of lines exceeded, <223> Other Information:  
L:185 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:7  
L:191 M:259 W: Allowed number of lines exceeded, <223> Other Information:  
L:192 M:259 W: Allowed number of lines exceeded, <223> Other Information:  
L:193 M:259 W: Allowed number of lines exceeded, <223> Other Information:  
L:195 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:7  
L:201 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:7  
L:206 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7 after pos.:32  
M:341 Repeated in SeqNo=7